

## Revision of the Genus *Pandanus* Stickman, Part 6 New *Pandanus* Species from Queensland, Australia

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THIS PART of the author's revision of the genus *Pandanus* is a collection of new species, all from the tropical northeastern corner of Queensland. They were all collected by L. J. Brass.

*Pandanus sphaericus* sp. nov. (sect.

*Australibrassia*)

Figs. 23–24

NOM. VERN.: "maia."

DIAGNOSIS HOLOTYPI: Arbor 6–7 m. alta, trunco gracile "eo et ramis cum spinis brevibus conicis, ramis reflexis, radicibus futurosis paucis 2–3 cm. longis," foliis 1.5 m. longis 3 cm. latis subcoriaceis gladiatis in apice subulato longiter attenuatis, puncto 10 cm. ex apice 1.5 mm. lato, basi inermi, sed ex 5 cm. marginibus cum subulato-serris pallidis 0.5–1 mm. longis 2–4 mm. distantibus, midnervio inermi, in regio mediali marginibus cum serris 0.5–0.7 mm. longis 1.5–3 mm. distantibus apicibus subulatis, midnervio infra cum serris 0.2–0.3 mm. longis 2–7 mm. distantibus adscendentibus, proxima apice marginibus et midnervio infra cum serris 0.2–0.3 mm. longis 2–3 mm. distantibus adscendentibus apicibus subulatis, pedunculo 26 cm. longo curvato cum bracteis foliosis paucis, syncarpio 12 cm. diametro subgloboso pendente circa 15 phalangibus ferentibus, eis 4.3–4.6 cm. longis 3.9–4.3 cm. latis 3.1–3.2 cm. crassis suborbicularibus sed subcompressis 4–5-angulos in sicco pallide brunneis exlucidis laevibus, lateribus valde curvatis parte  $\frac{2}{3}$  supera libera, apice truncato, suturis lateralibus nullis, sinibus centralibus apicalibus 4–5 mm. profundis anguste V-formatis, carpelis 9–11, apicibus anguste pyramidalibus sed cum regione proximali truncato et dimidio proximali duro brunneo lucido ad stigmatam dirigito, stigmatibus 1.5 mm. longis ellipticis ad ovatis sulcatis in apice latere proximo, suturis proximis  $\frac{1}{2}$ – $\frac{3}{4}$  ad fondam extentis, endocarpio

submediali 2.5–3 cm. longo osseoso pallide muris lateralibus 4–5 mm. crassis, seminibus 13–17 mm. longis 4 mm. diametro ellipsoidis, mesocarpio supero caverna unica 1 cm. longa cum fibris multis transversis formanto, mesocarpio basali fibroso et carnoso.

DIAGNOSIS OF HOLOTYPE: Tree 6–7 m. tall; trunk slender, it "and the branches studded with short conical thorns; branches down-turned; prop roots few, 2–3 dm. long"; leaves 1.5 m. long, 3 cm. wide, subcoriaceous, rapier-like and tapering from the base to the long subulate tip which 10 cm. down is only 1.5 mm. wide, the base unarmed, but beginning 5 cm. from the base the margins with subulate serrations, pale, 0.5–1 mm. long, 2–4 mm. apart; the nearby midrib unarmed; at the midsection the margins with subulate-tipped serrations 0.5–0.7 mm. long, 1.5–3 mm. apart; the midrib below with ascending serrations 0.2–0.3 mm. long, 2–7 mm. apart; near the tip the margins and midrib below with subulate-tipped ascending serrations 0.2–0.3 mm. long, 2–3 mm. apart; peduncle 26 cm. long, curving, with a few leafy bracts; syncarp pendent, 12 cm. in diameter, subglobose, of about 15 phalanges, these 4.3–4.6 cm. long, 3.9–4.3 cm. wide, 3.1–3.2 cm. thick, suborbicular, but somewhat compressed, 4–5-angled, when dried light brown, dull, smooth, the 4–5 sides strongly curving, upper  $\frac{2}{3}$  free; the apex truncate, lateral sutures none; central apical sinuses 4–5 mm. deep, narrow V-shaped; carpels 9–11, the apices narrow pyramidal with a proximal truncation and its inner half leading to the stigma hard, brown, shining; stigmas 1.5 mm. long, elliptic to ovate, creased, at tip of steep proximal face of apex; below it the proximal suture running  $\frac{1}{2}$ – $\frac{3}{4}$  way to valley bottom; endocarp submedian, 2.5–3 cm. long, bony, pale throughout, the lateral margins 4–5 mm. thick; seeds 13–17 mm. long, 4 mm. in diameter, ellipsoid; upper mesocarp a single cavity 1 cm. long, with many strong longitudinal fibers; basal mesocarp fibrous and fleshy.

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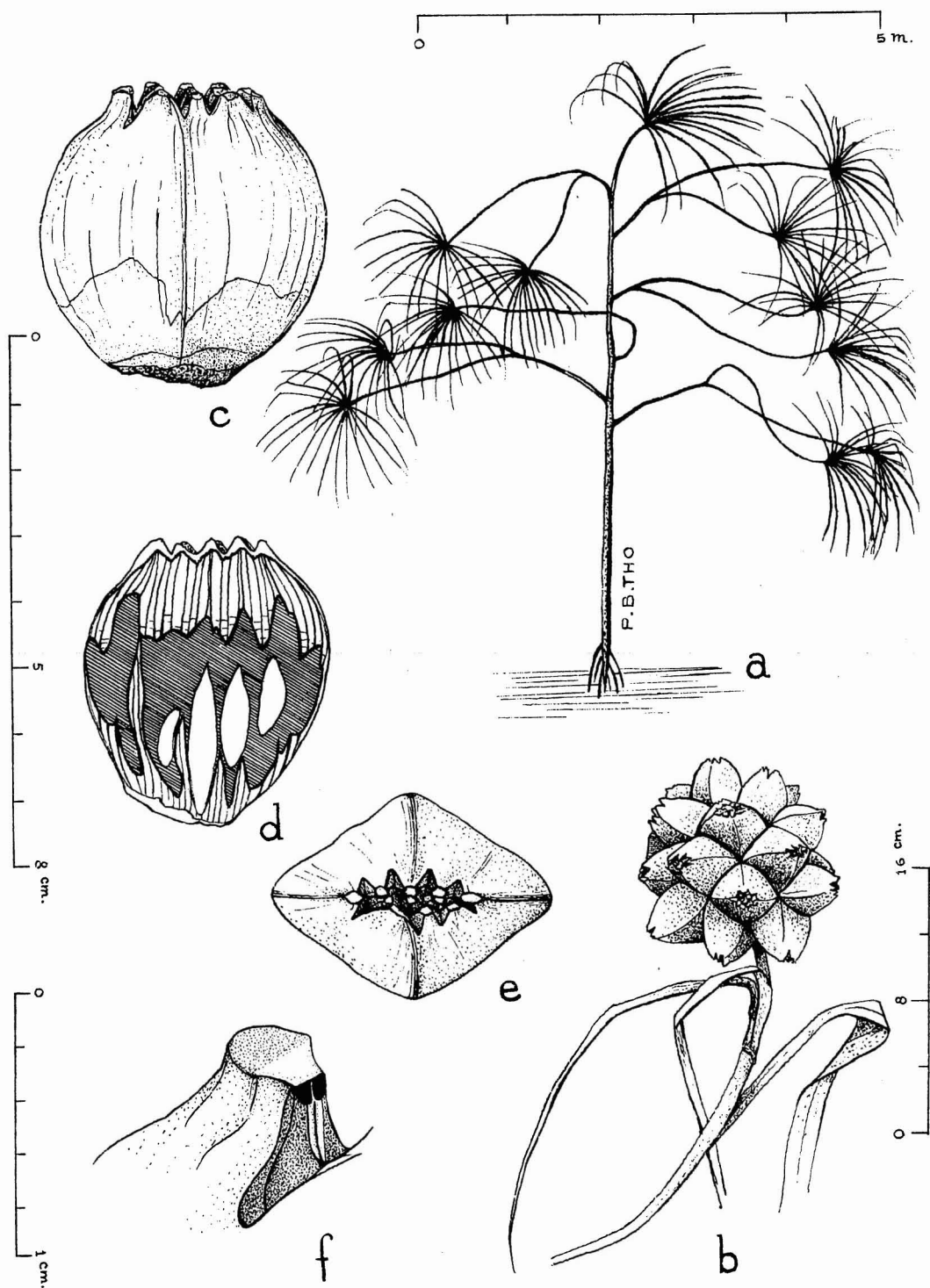


FIG. 23. *Pandanus sphaericus*, from holotype. *a*, Habit,  $\times 1/70$ ; *b*, syncarp,  $\times 1/4$ ; *c*, phalange, lateral view,  $\times 1$ ; *d*, phalange, longitudinal median section,  $\times 1$ ; *e*, phalange, apical view,  $\times 1$ ; *f*, carpel apex and stigma, oblique view,  $\times 4$ .

**HOLOTYPE:** Australia, Queensland, Cape York Peninsula, abundant locally in rain forest behind the coastal sand dunes, 20 m. alt., May 9, 1948, L. J. Brass 18,715 (BRI).

**DISCUSSION:** *P. sphaericus* is a member of the section *Australibrassia* and there also is its nearest relative, *P. cochleatus* St. John, which is distinguished by having the phalanges pyriform; the carpels 12–16; stigma below an overhanging cochleate rim; prop roots absent; and leaves having near the base marginal teeth 1.3–2 mm. long. It also occurs on the Cape York Peninsula. *P. sphaericus* differs by having the phalanges suborbicular; carpel 9–11; stigma on proximal face of carpel apex without an overhang; prop roots few; and leaves near base with marginal teeth 0.5–1 mm. long.

The new epithet is the Latin adjective, *sphaericus*, spherical, in reference to the shape of the phalange and of the syncarp.

*Pandanus ferrimontanus* sp. nov. (sect.

*Pandanus*)

Figs. 25–26

**DIAGNOSIS HOLOTYPE:** Arbor 5–7 m. alta 10–12 cm. diametro in corona laxa ramosa, radicibus fulturosis nullis, foliis 133–160 cm. longis 5.8 cm. latis subcoriaceis glaucis supra infraque gladiformatis gradatim ex basi in apice subulato longe acuminato diminuentibus, in puncto 10 cm. ex apice 3 mm. latis, marginibus ex basi per 29 cm. inermibus tum cum aculeis 2–3 mm. longis 6–21 mm. distantibus subulatis adscendentibus apice brunneo, midnervio inermi, in sectio mediali margine unica cum aculeis 1–2 mm. longis 2–6 mm. distantibus adpresse adscendentibus subulatis cum basi crassa, margine altera cum aculeis paucis simulantibus sed minoribus vel in partibus inermibus, midnervio infra cum aculeis paucis remotis minutis adscendentibus, in regione apicali marginibus et midnervio infra cum aculeis 0.2–0.3 mm. longis 3–5 mm. distantibus subulatis validis adscendentibus, pedunculo 40 cm. longo excedenti obscure trigono folioso, syncarpio 16 cm. longo 14 cm. diametro terminali solitario ovoideo-globoso cum circa 45 phalangibus, eis 4.5–4.7 cm. longis 4.2 cm. latis 3.4–3.5 cm. crassis late obovoideis subcompressis, apice rotundato, parte  $\frac{1}{3}$  supera libera, lateribus cum 5–6 angulis majoribus et

carpela quoque cum 2–4 angulis et valleculis angustis et tum lateribus phalangiorum proximorum interobseratis, in sicco lateribus papillosis et parte supera rubro-brunnea, suturis lateralibus angustis in dimidia supera, sinibus apicalibus centralibus 3.5–4.5 mm. profundis fondis angustis sinuosis et lateribus interobseratis, carpelis 8–12 plerumque 9–10, apicibus subaequalibus semiorbicularibus pallide brunneis sed lateribus brunneo-rimosis, regione obliqua brunnea concava ex stigmate distalia, stigmatibus 1–1.5 mm. longis ellipticis vel truncatis obscure brun-

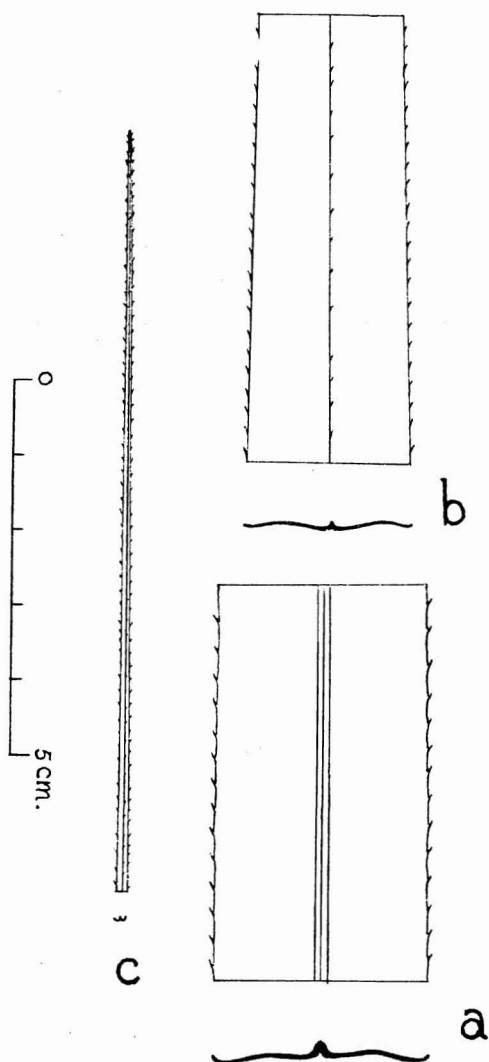


FIG. 24. *Pandanus sphaericus*, from holotype, lower side of leaf,  $\times 1$ . a, Near base; b, middle; c, apex.

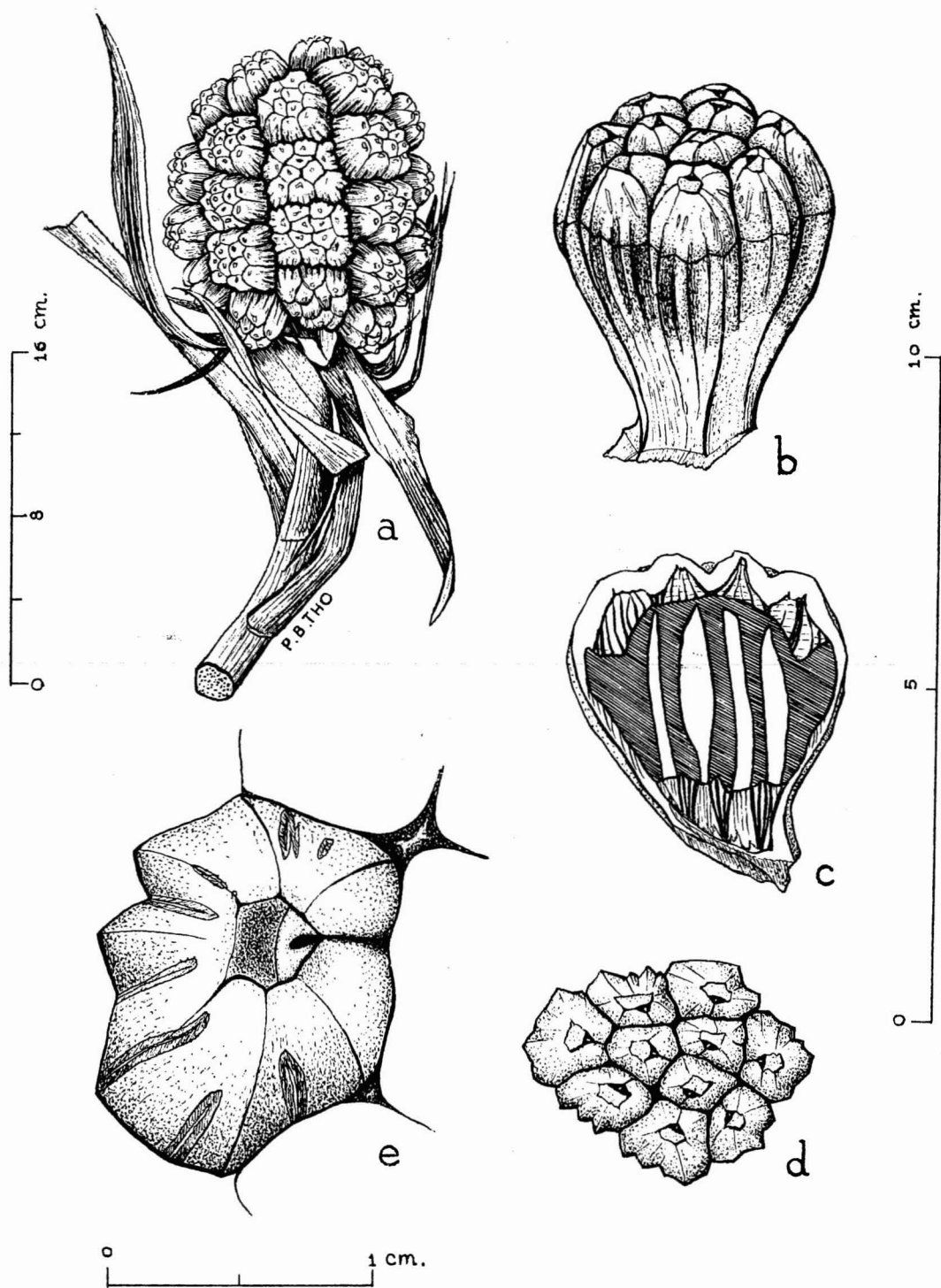


FIG. 25. *Pandanus ferrimontanus*, from holotype. *a*, Syncarp,  $\times \frac{1}{4}$ ; *b*, phalange, lateral view,  $\times 1$ ; *c*, phalange, longitudinal median section,  $\times 1$ ; *d*, phalange, apical view,  $\times 1$ ; *e*, carpel apex with stigma, apical view,  $\times 4$ .

neis obliquis sulcatis centripetalibus, sinu proximo profundo  $\frac{1}{2}$  vel omnino distancia ad fondam extento, endocarpio 22–25 mm. longo supramediali osseoso stramineo lateribus lateribus 8–10 mm. crassis, interiore cavernarum seminarum brunneo, seminibus 18–20 mm. longis 3–5 mm. diametro irregulariter ellipsoideis, mesocarpio apicali in carpella quoque cavernam cum fibris paucis et membranis stramineis transversis medullosis formanti, mesocarpio basali fibroso et carnosio.

DIAGNOSIS OF HOLOTYPE: Tree 5–7 m. tall, 10–12 cm. in diameter, branched into an open crown; prop roots none; leaves 133–160 cm. long, 5.8 cm. wide, subcoriaceous, glaucous above and below, sword-like, gradually tapering from near the base to the long acuminate, subulate tip which 10 cm. down is 3 mm. wide, the basal margins unarmed for 29 cm., then with prickles 2–3 mm. long, 6–21 mm. apart, subulate, ascending, brown-tipped; the nearby midrib unarmed; at the midsection one margin is with prickles 1–2 mm. long, 2–6 mm. apart, broad based subulate, appressed ascending, the other margin with a few similar but smaller prickles or in-

termittently with none; the midrib below with a few remote, minute, ascending prickles; near the apex the margins and midrib below with prickles 0.2–0.3 mm. long, 3–5 mm. apart, stout subulate, ascending; peduncle more than 40 cm. long, obscurely trigonous, leafy bracted; syncarp solitary, terminal, 16 cm. long, 14 cm. in diameter, ovoid-globose, the color unknown, of about 45 phalanges, these 4.5–4.7 cm. long, 4.2 cm. wide, 3.4–3.5 cm. thick, broadly obovoid, somewhat flattened, the apex rounded, upper  $\frac{1}{3}$  free, the sides with 5–6 major angles and each carpel with 2–4 sharp secondary ridges and valleys so that adjacent phalanges fit as if mortised, when dry the sides papillose and the upper part reddish brown; lateral sutures narrow but extending half way down; central apical sinuses 3.5–4.5 mm. deep, the bottoms narrow and sinuous mortised; carpels 8–12, mostly 9–10, the apices subequal, semiorbicular, the sides with dark brown cracks, elsewhere pale brownish, with an oblique distal, brown concavity leading to the stigma; stigma 1–1.5 mm. long, elliptic or truncate elliptic, creased, dark brown, oblique, centripetal; proximal sinus deep, running  $\frac{1}{2}$  way

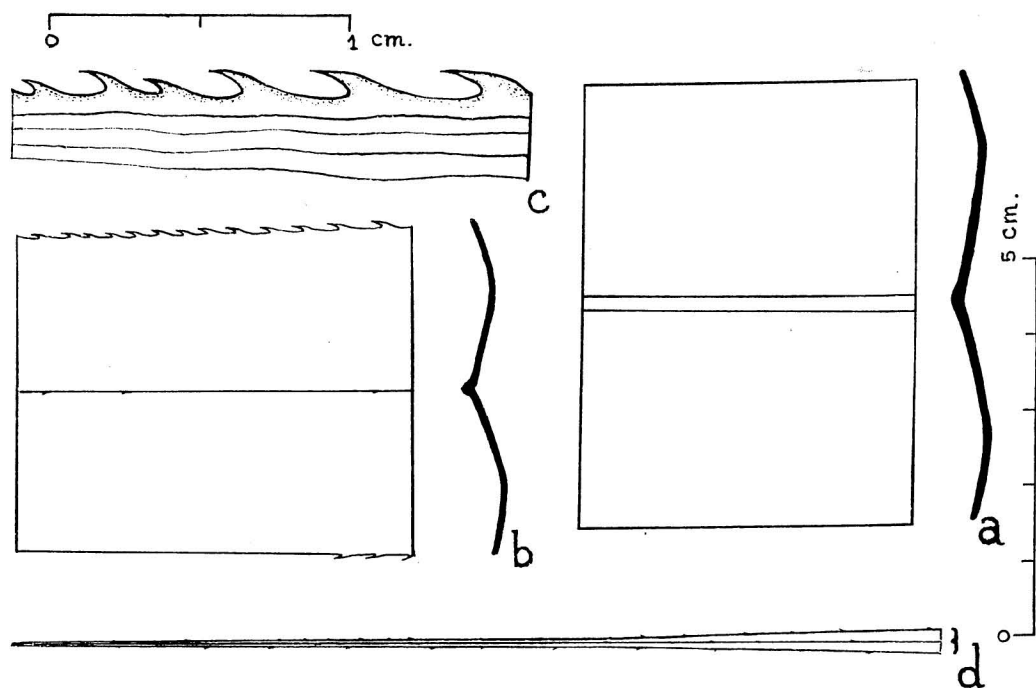


FIG. 26. *Pandanus ferrimontanus*, from holotype, lower side of leaf. *a*, Near base,  $\times 1$ ; *b*, middle,  $\times 1$ ; *d*, apex,  $\times 1$ ; *c*, marginal serrations at middle,  $\times 4$ .

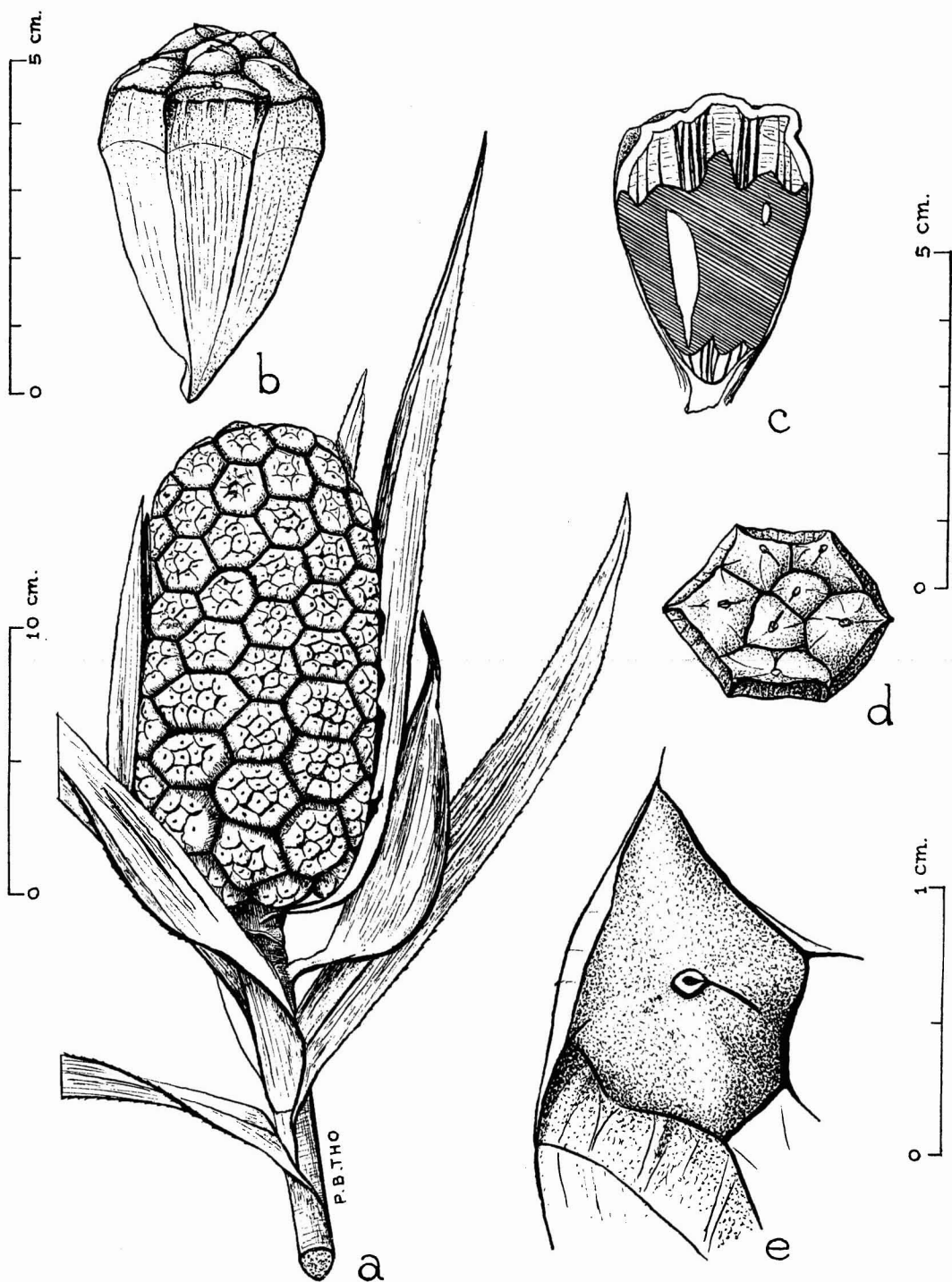


FIG. 27. *Pandanus oblatu*, from holotype. *a*, Syncarp,  $\times 2/5$ ; *b*, phalange, lateral view,  $\times 1$ ; *c*, phalange, longitudinal median section,  $\times 1$ ; *d*, phalange, apical view,  $\times 1$ ; *e*, apex of carpel and stigma, apical view,  $\times 4$ .

to all the way to the valley bottom; endocarp supramedian 22–25 mm. long, bony, stramineous except for the dark brown, shining lining of the seed cavities, lateral walls 8–10 mm. thick; seeds 18–20 mm. long, 3–5 mm. in diameter, irregularly ellipsoid; apical mesocarp in each carpel forming a cavern with a few strong, longitudinal fibers, and transverse, stramineous, medullary membranes; basal mesocarp fibrous and fleshy.

**HOLOTYPE:** Australia, Queensland, Cape York Peninsula, Iron Range, scattered or gregarious in groves in savanna forest, 20 m. alt., June 24, 1948, *L. J. Brass 19,312* (BRI).

**DISCUSSION:** The flowers were not seen by the collector. This new species is a member of the section *Pandanus*, to which most of the Australian species belong. None of the previously described species are close relatives, so no contrast is needed here.

The new specific epithet is formed from the Latin, *ferrum*, iron; *montanus*, of the mountain, in reference to the name of the type locality.

*Pandanus oblatulus* sp. nov. (sect. *Pandanus*)

Figs. 27–28

**DIAGNOSIS HOLOTYPE:** Arbor 12–14 m. alta, trunco "crasso, corona ramosa, radicibus futuriosis multis longis spinosis," foliis 1.6 m. longis 9.2 cm. latis crassiter coriaceis infra subglaucis, in sectione valde M-formatis, gladiformatis gradatim in apice subulato trigono valide diminuentibus, in regione 10 cm. ex apice 5–6 mm. latis, basi amplexicauli et integri sed ex 7 cm. marginibus cum aculeis 2–3 mm. longis 3–6 mm. distantibus subulatis validis luteis subadscendentibus, midnervio infra inermi, in regione mediali marginibus cum aculeis 1.5–3 mm. longis 3–5 mm. distantibus subulatis validis arcuato-adscendentibus, midnervio infra salienti acuito et cum aculeis 2.5–3 mm. longis 10–20 mm. distantibus simulantibus adscendentibus; in regione apicali marginibus et midnervio infra subulato-serratis serris 0.8–1.2 mm. longis 2–3 mm. distantibus, pedunculis 15 vel plus cm. longis obtuse trigonatis folioso-bracteatis, syncarpio 18 cm. longo 13 cm. diametro cylindrico sed apicibus ambis rotundatis cum circa 92 phalangibus, eis 4.7–5.1 cm. longis 2.9–3.5 cm. latis 2.4–2.7 cm. crassis obovoideis in sicco rubro-

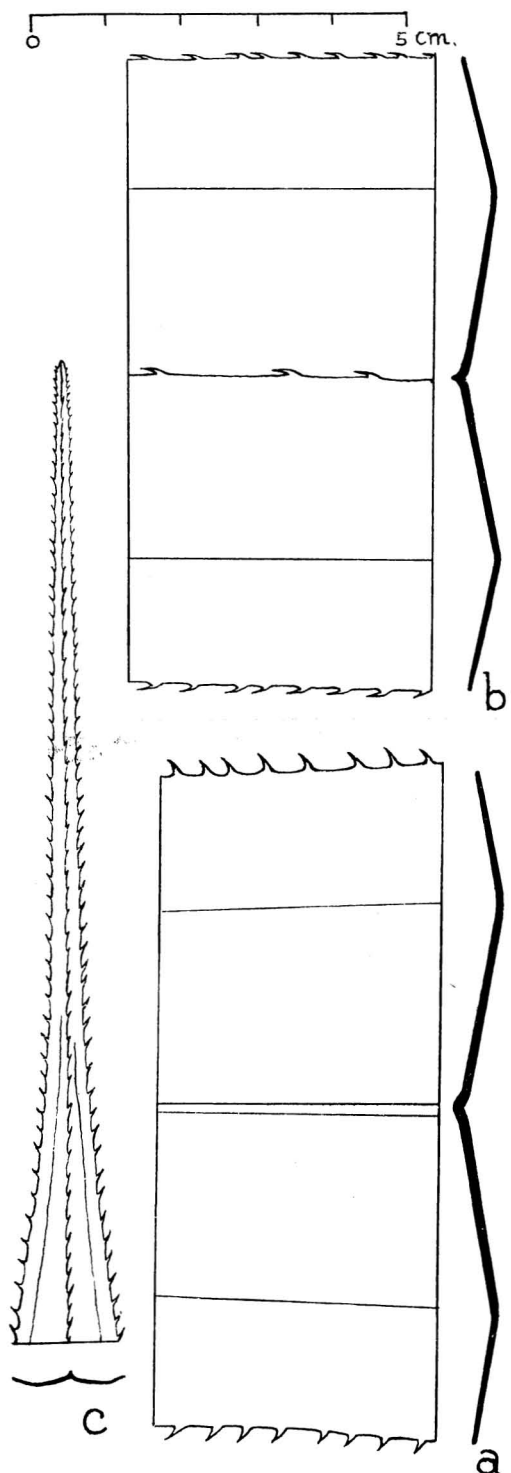


FIG. 28. *Pandanus oblatulus*, from holotype, lower side of leaf,  $\times 1$ . a, Near base; b, middle; c, apex.



brunneis 4–6-angulosis, lateribus papillosis subcurvatis vel paene planatis parte  $\frac{1}{4}$  supra libera, apice rotundato, suturis lateralibus nullis, sinibus apicalibus centralibus 2–4 mm. profundis late V-formatis, carpelibus 5–12 sed in phalangibus dimidia superae plerumque 6–7 et in eis inferis plerumque 10–11, apicibus centralibus oblato-semiorbicularibus, eis marginalibus oblato-pyramidalibus, stigmatibus 1–1.8 mm. longis suborbicularibus ad ovalibus sulcatis obscuris apicalibus centripetalibus plerumque obliquis, sinu proximali lato  $\frac{1}{2}$  distancia ad fundam extento, endocarpio mediali osseoso obscure brunneo excepta marginibus pallidis, lateribus lateralibus 4–5 mm. crassis, seminibus 16 mm. longis 4 mm. diametro ellipsoideis, mesocarpio apicali in carpela quoque caverna cum membranis pallidis medullosis formanti, mesocarpio basali fibroso et carnosio.

**DIAGNOSIS OF HOLOTYPE:** Tree 12–14 m. tall; trunk "thick, crown branched; stilt roots many, long, and prickly"; leaves 1.6 m. long, 9.2 cm. wide, thick coriaceous, below slightly glaucous, in section sharply M-shaped, sword shaped, gradually narrowed to the stout, trigonous, subulate apex, this 10 cm. down is 5–6 mm. wide, at very base amplexicaul and entire, but from 7 cm. up the margins with prickles 2–3 mm. long, 3–6 mm. apart, stout subulate, yellow, slightly ascending, the nearby midrib unarmed below; at midsection the margins with prickles 1.5–3 mm. long, 3–5 mm. apart, stout subulate, arcuate ascending; the midrib below sharp, salient, with prickles 2.5–3 mm. long, 10–20 mm. apart, similar, ascending; near the apex the margins and midrib below subulate-serrate, the teeth 0.8–1.2 mm. long, 2–3 mm. apart; peduncle 15 or more cm. long, obtusely trigonous, leafy bracted; syncarp 18 cm. long, 13 cm. in diameter, cylindric but with the ends rounded, of about 92 phalanges, these 4.7–5.1 cm. long, 2.9–3.5 cm. wide, 2.4–2.7 cm. thick, obovoid, when dried reddish brown, 4–6-angled, the sides minutely papillose, gently curving or nearly plane, upper  $\frac{1}{4}$  free, the apex rounded; lateral sutures none; central apical sinuses 2–4 mm. deep, wide V-shaped; carpels 5–12, those of the upper half mostly 6–7, those of the lower mostly 10–11, the central apices oblato-semiorbicular, the marginal ones oblato-pyramidal;

stigmas 1–1.8 mm. long, suborbicular to oval, creased, dark, apical, centripetal, mostly oblique; proximal sinus wide, running  $\frac{1}{2}$  way to the valley bottom; endocarp median, bony, dark brown except for the pale outer margins, the lateral walls 4–5 mm. thick; seeds 16 mm. long, 4 mm. in diameter, ellipsoid; upper mesocarp in each carpel forming a cavern nearly free of fibers but with pale medullary transverse membranes; basal mesocarp fibrous and fleshy.

**HOLOTYPE:** Australia, Queensland, Cape York Peninsula, Iron Range, occasionally in gullies in rain forest, 20 m. alt., June 24, 1948, L. J. Brass 19,309 (BRI).

**DISCUSSION:** The new species is a member of the section *Pandanus*. In this the closest relative seems to be *P. odoratissimus* L. f. var. *novoguineensis* (Martelli) St. John, which as the phalanges 5.7–6 cm. long, 3–3.5 cm. wide, the lateral sinuses distinct in the upper half; apical central sinuses 5–6 mm. deep; carpel apices semiorbicular; and the endocarp suprmedian. On the other hand, *P. oblatus* has the phalanges 4.7–5.1 cm. long, 2.9–3.5 cm. wide; lateral sinuses none; apical central sinuses 2–4 mm. deep; apices of the marginal carpels oblato-pyramidal; and the endocarp submedian.

The epithet is the Latin participle, *oblatus*, given the modern scientific meaning, depressed. This refers to the oblato-pyramidal carpel apices.

*Pandanus somersetensis* sp. nov. (sect. *Pandanus*)

Figs. 29–30

**DIAGNOSIS HOLOTYPE:** Arbor 5–8 m. alta 20–30 cm. diametro supra media ramosa, cortice armato cum muriculis, radicibus fulturosis 6–15 cm. longis pluribus, foliis 93 cm. longis 6.8–7.2 cm. latis coriaceis glaucis gladiformibus sed sensim diminutibus ad apicem acutum in puncto 10 cm. ex apice 7 mm. latis in base marginibus integris sed ex loco 7–10 cm. e base in uno latere cum aculeis 1.5–2.3 mm. longis 3–8 mm. distantibus crassiter subulatis stramineis adscendentibus sed in latere altero aculeis 0.5–1 mm. longis 3–15 mm. distantibus midnervio exarmato fere ubique, foliis in sectione mediale integris et in parte apicale marginibus integris sed nervo mediale infra cum aculeis 0.3 mm. longis paucis remotis, pedunculis ca. 25 cm.



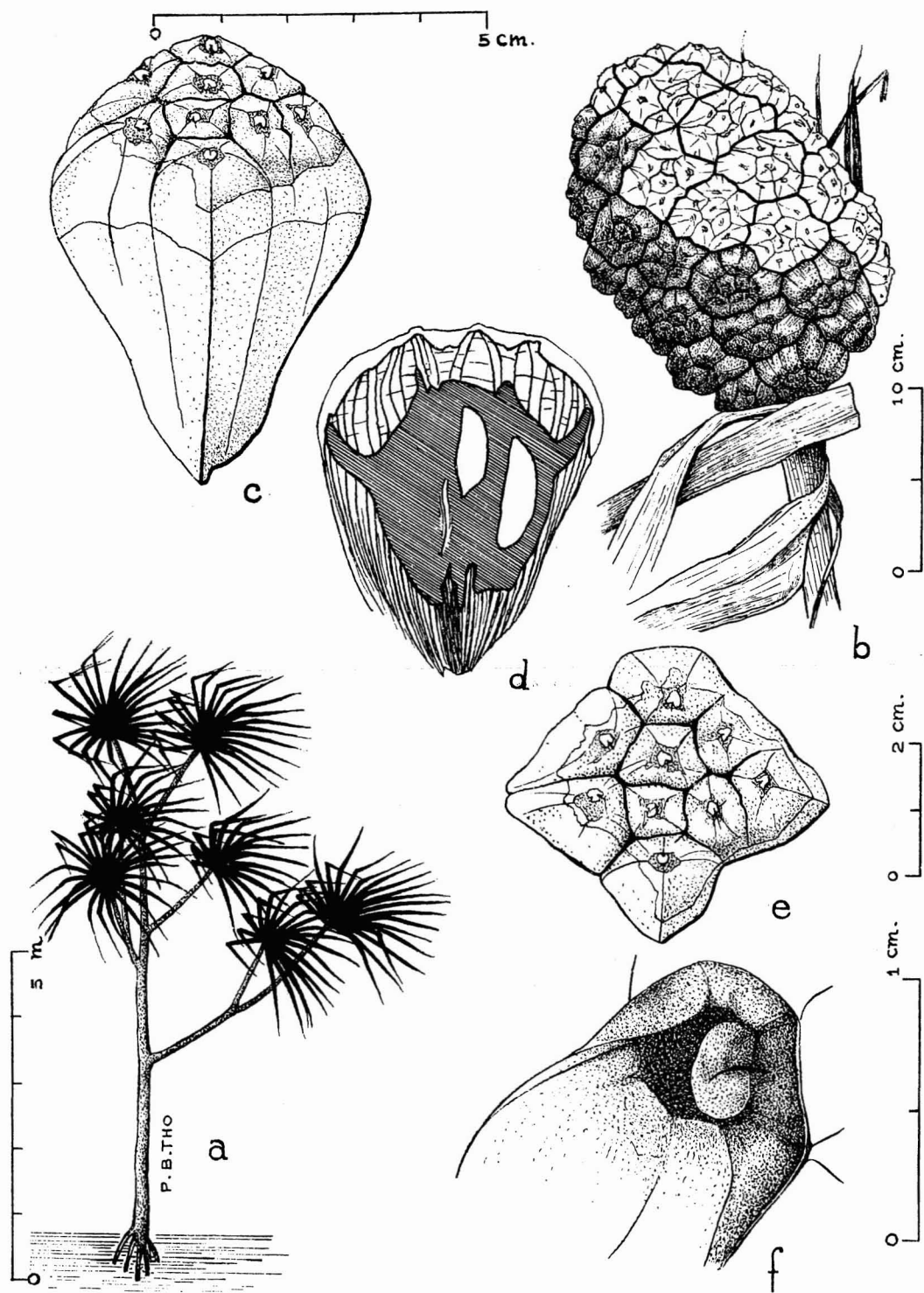


FIG. 29. *Pandanus somersetensis*, from holotype. *a*, Habit,  $\times 1/100$ ; *b*, syncarp,  $\times 3/16$ ; *c*, phalange, lateral view,  $\times 1$ ; *d*, phalange, apical view,  $\times 1$ ; *e*, apex of carpel and stigma, apical view,  $\times 4$ .

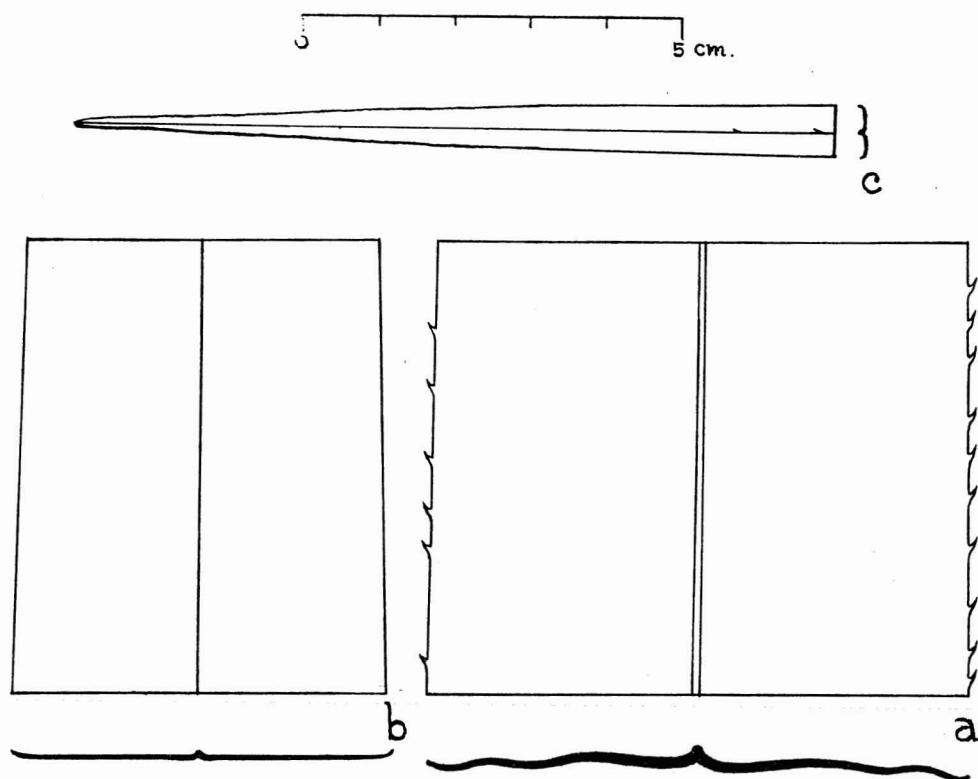


FIG. 30. *Pandanus somersetensis*, from holotype, lower side of leaf,  $\times 1$ . *a*, Near base; *b*, middle; *c*, apex.

longis foliosis, syncarpiis terminalibus singularibus maximis eorum 22 cm. longis 13 cm. diametro late ellipsoideis subtriangularibus cum ca. 70 phalangibus eis 5–5.5 cm. longis 4–5.1 cm. latis 3.2–4.5 cm. crassis anguste obpyramidalibus 4–6-angulosis in sicco brunneis laevibus et sublucidis lateribus paene curvatis vel planis parte  $\frac{1}{4}$  supera libera, apice lato depresso convexo, suturis lateralibus raris sed paucis et solo in parte quarta supera evidentis, suturis apicalibus centralibus 0.5–1 mm. profundis sed plerumque tam vadosis quam paene imperceptis sunt et suturis solum tessellatis, carpelis 7–9, apicibus inequalibus quod carpelis lateralibus in latere exteriore distentis sunt sed apicibus omnibus veris brunneis subaequalibus et subplanis sed eis centralibus minime depressoconicis, stigmatibus 1.5–3 mm. longis ovato-deltoides ad ellipticis horizontalibus centripetalibus minime elevatis, sutura proxima ad dimidiam intervallam ad basem producta, endocarpio mediale osseoso subalbo in latere 2–3 mm.

crasso, seminibus 15–16 mm. longis 5 mm. diametro oblique ellipsoideis, mesocarpio supero cavernoso et cum fibris longitudinalibus crassis et membranis albis, mesocarpio infero fibroso et carnosio sed minimo.

DIAGNOSIS OF HOLOTYPE: Tree 5–8 m. tall, 20–30 cm. in diameter, branching in 2's or 3's, beginning halfway up, the crown semiorbicular; bark armed with scattered, short, sharp bosses; prop roots several, 6–15 cm. long; leaves 93 cm. long, 6.8–7.2 cm. wide, coriaceous, glaucous, sword-like but tapering gradually from the base to the acute tip, this 10 cm. down 7 mm. wide, at the very base the margins entire, but beginning 7–10.5 cm. above it having on one side ascending prickles 1.5–2.2 mm. long, 3–8 mm. apart, stout subulate, stramineous, but on the other border 0.5–1 mm. long, 3–15 mm. apart, the midrib smooth almost throughout; at the middle the margins entire; near the tip the margins entire and only the midrib below with a few remote ascending prickles 0.3 mm. long;

peduncles about 25 cm. long, leafy bracted; syncarps terminal, single, the largest 22 cm. long, 13 cm. in diameter, broadly ellipsoid, obscurely 3-angled, the color unknown, of about 70 phalanges; phalanges 5–5.5 cm. long, 4–5.1 cm. wide, 3.2–4.5 cm. thick, narrowly obpyramidal, 4–6-angled, when dried light brown, smooth and somewhat shiny, the sides gently curving or plane, free in upper  $\frac{1}{4}$ , the apex broad, low convex, lateral carpal sutures mostly none, but a few perceptible down  $\frac{1}{4}$  way, the central apical sutures 0.5–1 mm. deep, but mostly so shallow as to be almost imperceptible and the sutures merely making a tessellate pattern; carpels 7–9, the apices somewhat unequal as the lateral ones have considerable expansion on the outer side, but the brown colored, actual apex is subequal on all and is almost flat, though the central ones have a perceptible depressed conic elevation; stigmas 1.5–3 mm. long, ovate-deltoid to elliptic, horizontal, centripetal, slightly raised, below it the proximal suture on the carpal apex from very short to  $\frac{1}{2}$  as long as the distance to the intercarpellary suture; endocarp median, bony, whitish, that surrounding the outer seeds 2–3 mm. thick; seeds 15–16 mm. long, 5 mm. in diameter, obliquely ellipsoid; upper mesocarp cavernous, with very stout longitudinal fibers and delicate, white, medullary membranes; lower mesocarp fibrous and fleshy, but of small extent.

**HOLOTYPE:** Australia, Queensland, Cape York Peninsula, Newcastle Bay,  $2\frac{1}{2}$  mi. S. of Somerset, commonly on rocky coastline and beside small freshwater streams in coastal sand dune area, May 13, 1948, *L. J. Brass* 18,792 (BRI).

This new species certainly belongs in the section *Pandanus*, even though the stigmas are subhorizontal. None of the published species in that section are so similar that it would be of value to state the contrasting differences.

The new epithet is geographic, indicating the type locality of the species.

*Pandanus truncatus* sp. nov. (sect. *Pandanus*)  
Figs. 31–32

**DIAGNOSIS HOLOTYPE:** Arbor 6–8 m. alta, laxe ramosa, foliis 1.43 m. longis 6 cm. latis in base coriaceis ligulatis infra minus glaucis ex base gradatim diminuentibus ad apicem subulatum in puncto 10 cm. ex apice 3 mm. latis in

base exarmatis sed ex puncto 15 cm. ex base marginibus cum aculeis 1.5–2 mm. longis 3–10 mm. distantibus aciculatis rectis adscendentibus in apice brunneis, in parte mediale marginibus et midnervio exarmatis, ad apicem marginibus midnervioque infra cum serris remotis 0.2–0.3 mm. longis, syncarpio terminale singulare subpendente, pedunculo 20 cm. longo triangulare bracteato, syncarpio 18 cm. longo 13 cm. diametro late ellipsoideo cum ca. 56 phalangibus 4.5–5 cm. longis 3.1–4.1 cm. latis 2.9–3.3 cm. crassis late obovoideis, apice depresso convexo,  $\frac{1}{3}$  parte supera libera, lateribus cum 6–8 angulis majoribus et 2–3-plo angulis et vallibus minoribus in sicco pallide brunneis laevibus et lucidis, suturis lateralibus fortibus  $\frac{1}{2}$  vel omnia distancia extensis, sinibus centralibus apicalibus 3–4 mm. profundis angustis sinuatisque, carpellis 7–11, apicibus subaequalibus pyramidalisemiorbicularibus omnibus marginalibus et paucis centralibus cum area plana vel minime concava obscure brunnea terminale, stigmatibus centripetalibus 1–1.5 m. longis suborbicularibus vel obcordatis valde inclinatis, sutura proximali et stigmate dimidia vel omnia distancia ad vadium extensa, endocarpio mediale osseoso albo solum in parte supera extensa sed in lateribus et parte infera diminuenda in muris 0.5 mm. crassis, seminibus 23–25 mm. longis 4–6 mm. diametro ellipsoideis, mesocarpio supero pluricavernoso cum fibris validis et membranis medullosis pallidis, mesocarpio infero fibroso et carnosio sed in base toto carnosio.

**DIAGNOSIS OF HOLOTYPE:** Tree 6–8 m. tall, branched into a very open crown; leaves 1.43 m. long, 6 cm. wide near the base, coriaceous, ligulate, somewhat glaucous below, tapering gradually from the very base up to the subulate tip which 10 cm. down is 3 mm. wide, the base unarmed, but beginning 15 cm. up the margins with spines 1.5–2 mm. long, 3–10 mm. apart, straight acicular, ascending, brown-tipped; in the median region the margins and midrib unarmed; near the apex the margins and midrib below with a few remote serrations 0.2–0.3 mm. long; syncarp terminal, single, almost pendent, borne on a triangular, leafy bracted peduncle about 20 cm. long, the syncarp 18 cm. long, 13 cm. in diameter, broadly ellipsoid, of about 56 phalanges, these 4.5–5 cm. long, 3.1–4.1 cm. wide, 2.9–3.3 cm. thick, broadly obovoid, the

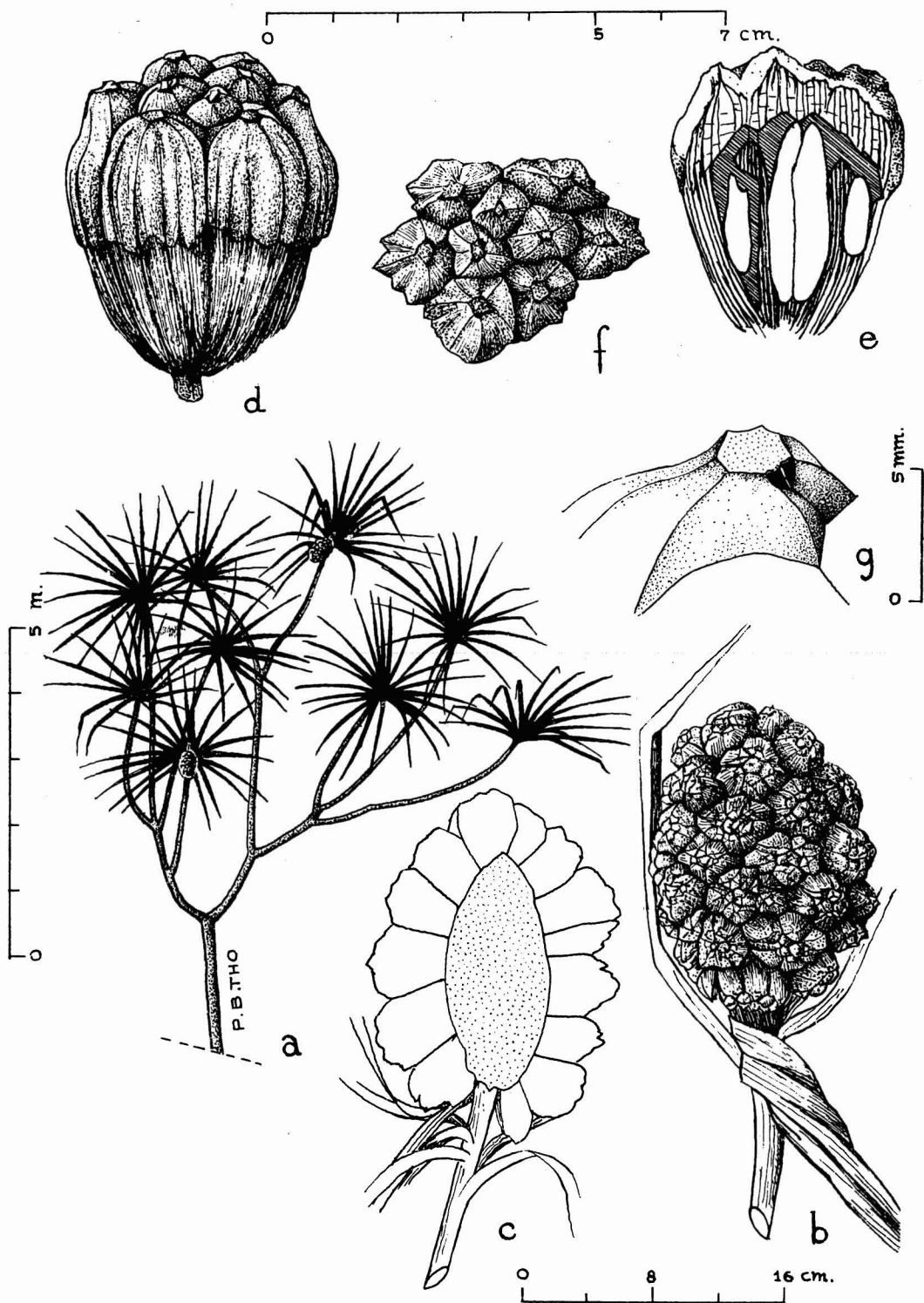


FIG. 31. *Pandanus truncatus*, from holotype. *a*, Habit,  $\times 1/100$ ; *b*, syncarp,  $\times 5/18$ ; *c*, syncarp, longitudinal section,  $\times 5/18$ ; *d*, phalange, lateral view,  $\times 1$ ; *e*, phalange, longitudinal median section,  $\times 1$ ; *f*, phalange, apical view,  $\times 1$ ; *g*, apex of carpel and stigma, oblique view,  $\times 4$ .

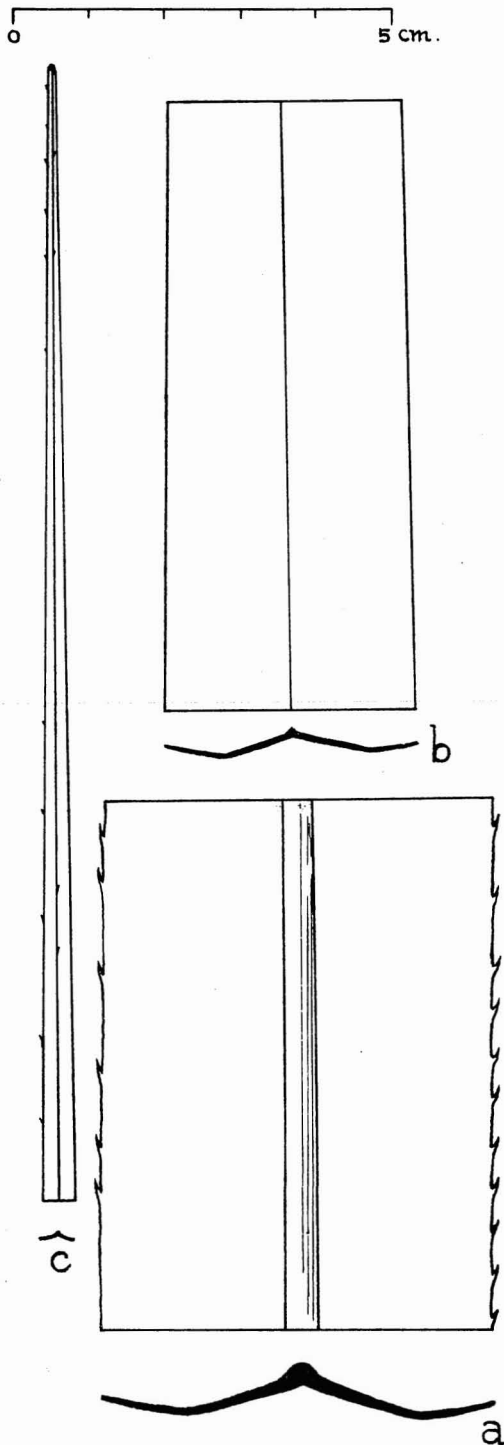


FIG. 32. *Pandanus truncatus*, from holotype, lower side of leaf,  $\times 1$ . a, Near base; b, middle; c, apex.

apex low convex, upper  $\frac{1}{3}$  free, the sides with 6–8 major angles and with 2–3-times that number of secondary sharp ridges, so that the adjacent phalanges fit as if mortised, when dried light brown, smooth and shiny, lateral carpal sutures well marked  $\frac{1}{2}$  way or nearly all the way down, the central apical sinuses 3–4 mm. deep, the bottoms narrow and sinuous; carpels 7–11, the apices subequal pyramidal-semiorbicular, all the marginal and some of the central ones with a dark brown flat or slightly concave surface below the proximal edge of which is the steeply oblique, centripetal stigma 1–1.5 m. long, suborbicular to obcordate, and below it the proximal crease running  $\frac{1}{2}$  way or all the way to the bottom; endocarp median, bony, white, extensive only at the upper end, diminishing on the sides and lower part to thin sheets only 0.5 mm. thick; seeds 23–25 mm. long, 4–6 mm. in diameter, ellipsoid; upper mesocarp of several caverns with strong longitudinal fibers and pale medullary membranes; lower mesocarp fibrous and fleshy, but the actual base almost wholly fleshy.

**HOLOTYPE:** Australia, Queensland, Cape York Peninsula, Lockerbie, 10 mi. WSW of Somerset, common and in places forming small groves on sandy soil in savanna-forest, 30 m. alt., 1948, L. J. Brass 18,552 (BRI).

**DISCUSSION:** The closest relative, *P. Brookei* Martelli, has the leaves near the base with marginal teeth 2–3 mm. long; syncarp cylindric,  $43 \times 21.5$  cm., with about 66 phalanges the sides of which are plane or gently curving; apices of the marginal carpels broad concave on a broad pyramidal base; central apical sinuses 4–6 mm. deep, the lines straight or gently curved; stigmas horizontal, 2–3 mm. long; and the endocarp 2 cm. long. On the other hand, *P. truncatus* has the leaves with marginal teeth near the base with teeth 1.5–2 mm. long; phalange sides sharply ridged and mortised with neighbors; syncarp broadly ellipsoid,  $18 \times 13$  cm., with about 56 phalanges; apices of marginal carpels with oblique, truncate planes exterior of the stigmas; central apical sinuses 3–4 mm. deep, the lines sinuous; and the stigmas steeply inclined, 1–1.5 mm. long.

The new epithet is the Latin participle, *truncatus*, cut off, or flat ended, in allusion to the shape of the carpal apices.